

CLAIMS

What is claimed is:

1. A method for video detection and replacement, the method comprising:

receiving an input video signal;

automatically identifying a segment in the input video signal locally using fingerprint data of both the segment and the input video signal; and

generating an output video signal comprising the input video signal with the segment replaced with a replacement portion.
2. The method as recited in claim 1, further comprising;

automatically receiving fingerprint data of segments to be identified via a computer communications network; and

storing the fingerprint data.
3. The method as recited in claim 2, wherein the fingerprint data is transmitted periodically.
4. A method of distributing fingerprint data, the method comprising:

analyzing video segments and computing fingerprint data;

storing the fingerprint data in a database; and

transmitting the fingerprint data to subscribers on a computer communications network.

5. A method for replacing a portion of a video stream, the method comprising:

creating a fingerprint of a portion of an incoming video stream;

retrieving at least one stored fingerprint, wherein the stored fingerprint represents a known video segment;

comparing the fingerprint with the at least one stored fingerprint to determine the presence of a known video segment in the incoming video stream; and

replacing the known video segment in the incoming stream with a replacement video segment.
6. The method as recited in claim 5, further comprising: monitoring the incoming video stream during the replacing to determine an

approximate end point of advertising content; and

terminating the replacing at the approximate end point of the advertising content.
7. The method as recited in claim 6, further comprising taking the replacement video segment from a queue.
8. The method as recited in claim 7, wherein the queue is locally configured by a local operator.
9. The method as recited in claim 5, wherein said fingerprint comprises statistical

information regarding color.

10. The method as recited in claim 5, wherein said fingerprint comprises statistical information regarding spatial variations.

11. The method as recited in claim 5, wherein said fingerprint comprises statistical information regarding temporal variations.

12. The method as recited in claim 5, wherein said portion is at least one frame.

13. The method as recited in claim 5, wherein said portion is at least one partial spatial region of a frame.

14. The method as recited in claim 5, wherein said incoming video stream is a digital video stream.

15. The method as recited in claim 5, wherein said incoming video stream is an analog video stream captured to digital form.

16. The method as recited in claim 5, wherein said known video segment is an advertisement.

17. The method as recited in claim 5, wherein said known video segment is a commercial break outro.

18. The method as recited claim 5, wherein said replacing is performed using a video switch.
19. The method as recited in claim 5, wherein said replacing is performed using digital splicing.
20. The method as recited in claim 5, wherein said replacement video segment comprises a video advertisement.
21. The method as recited in claim 5, wherein said replacement video segment comprises a still picture.
22. The method as recited in claim 5, wherein said replacement video segment comprises a web page.
23. The method as recited in claim 4, wherein the transmitting further comprises transmitting the fingerprint data along with a time stamp and channel information.
24. An apparatus for distributing fingerprint data, the apparatus comprising:
an analyzer analyzing video segments and computing fingerprint data;
a fingerprint database storing the fingerprint data; and
a transmitting unit transmitting the fingerprint data to requestors on a computer communications network.

25. The apparatus as recited in claim 24, further comprising a correlation unit generating a time stamp which is transmitted by the transmitting unit along with the fingerprint data.

26. An apparatus for video detection and replacement, the apparatus comprising:

an identifying unit identifying a segment in an input video signal using fingerprint data;

a replacing unit replacing the segment in the input video signal with a replacement portion to generate an output video signal; and

an output unit generating the output video signal.

27. The apparatus as recited in claim 26, further comprising:

a fingerprint receiving unit receiving fingerprint data for a plurality of respective segments via a computer communications network; and

a storage device storing received fingerprint data.